

DETAILED ACTION

1. This Office Action is in response to correspondence filed March 31, 2008 in reference to application 09/459,380. Claims 1-54 are pending in the application and have been examined.

Response to Amendment

2. The amendments filed March 31, 2008 have been accepted and considered in this office action. Claims 1, 10, 17, 23, 47 and 48 have been amended.

Response to Arguments

3. Applicant's arguments filed March 31, 2008 have been fully considered but they are not persuasive.

4. With regards to applicants arguments that McDonough fails to teach "the final criteria measurement value based on the valued associated with each determined stored voice representation based on the value associated with each determined voice representation occurring in the voice message, the examiner respectfully disagrees. Column 6 line 4-42, teaches that models are trained and parametric probabilistic models and parameter values are developed for stored representations. In column 6 line 1, the topic classifier uses model parameters determined in training. Therefore it is inherent that the confidence scores will be determined in part by this probabilistic parameters that were developed using the stored representation when comparing to a voice

message. The Applicant argues on page 25 that expected number of occurrences is different from a criteria measurement as described in the claim. However, it is noted that the claim limitations do not specify what the criteria measurement is, and therefore it is open to reasonable interpretation, which can include an expected number of occurrences. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., page 26, with the final criteria measurement value providing the ability to weight various words/phrases with respect to each other (some may be more important than others, when detected)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. With regards to applicants arguments that McDonough and Furui fails to teach "determining if the voice message exhibits a "predetermined pattern of speech," where the predetermined pattern of speech represents "at least one of a tone of speech in the voice message and a frequency of the speech in the voice message," the examiner respectfully disagrees. Furui teaches this limitation with the use of HMMs to recognize tone patterns in speech as laid out by the previous office action. This is all the claim language requires. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which

applicant relies (i.e., overall tone or frequency, and determining urgency or other emotions.) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

McDonough

7. Claims 1, 4-5, 8-10, 13-17, 22-23, 28-29, 47, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by McDonough et al. [US Patent 5,625,748], already of record.

8. Regarding claim 1, McDonough describes the claimed limitations as a whole recognizable to one versed in the art as the embodiment for processing untranscribed speech by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

voice representations and voice messages [at column 6, lines 23-29, as untranscribed speech data];

storing voice, corresponding to a word or phrase [at column 2, lines 1-17, as training words to the vocabulary, and at column 5, lines 47-48, as a vocabulary of words and phrases for speech events];

each voice representation is associated with a value [at column 6, lines 41-42, as parameter values for individual event distributions];

storing actions [at column 2, lines 14-17, as create a new node associating an action with a word];

receive a voice message [at column 1, lines 53-54, as provide an input speech message];

analyze the voice message to determine if one or more stored voice representations occur in the message [at column 5, lines 43-50, as process a spoken message to produce a signal for the potential speech events in the spoken data];

generate a final criteria measurement value associated with the voice message [at column 7, lines 28-44, as summing confidence scores over the speech data];

the final criteria measurement value based on the value associated with each determined stored voice representation occurring in the voice message [column 6 line 4-42, models are trained and parametric probabilistic models and parameter values are developed for stored representations. Column 6 line 1 the topic classifier uses model parameters determined in training. Therefore it is inherent that the confidence scores will be determined in part by this probabilistic parameters.];

perform one (or more) action(s) if the stored voice representations are found in the voice message [at column 2, lines 1-8, as route the message according to the action associated with the word];

performing the (stored) action based on the final criteria measurement value [at column 12, lines 28-41, as sort, classify or route based on the topic, wherein at column 5, line 64-column 6, line 1 the topic choice is a confidence score that a topic is present].

9. Claim 4 is rejected using the same rationale as in the previous Office action that was mailed November 20, 2002 as paper 3, and is reproduced here:

Claim 4 is set forth including the limitations of claim 1. McDonough describes those limitations as indicated there. McDonough also describes additional limitations as follows:

the user specifying words or phrases [at column 12, lines 11-13, as keywords selected by an operator];

storing a voice representation of each user specified word or phrase [at column 2, lines 1- 17, as training words to the vocabulary];

the user specified words or phrases are included in analyzing the voice message [at column 12, lines 1-27, as keywords selected by the user are modeled in the event detector].

10. Claim 5 is rejected using the same rationale as in the previous Office action that was mailed November 20, 2002 as paper 3, and is reproduced here:

Claim 5 is set forth including the limitations of claim 1. McDonough describes those limitations as indicated there. McDonough also describes additional limitations as follows:

the user specifying actions to be performed if the voice representation is found in the voice message [at column 2, lines 1-24, as the user specifies the correctness of the action associated with the word to route the message according to the action associated with the word];

storing the user specified actions [at column 2, lines 1-24, as the user specifies the correctness of the action to create a new node associating an action with a word];

the user specified actions are included in performing the stored actions [at column 2, lines 1-24, as route the message according to the action associated with the word for which the user specifies the correctness of the action associated with the word].

11. Claim 8 is rejected using the same rationale as in the previous Office action that was mailed November 20, 2002 as paper 3, and is reproduced here:

Claim 8 is set forth including the limitations of claim 1. McDonough describes and make obvious those limitations as indicated there. Because McDonough's embodiments are directed equally to either processing of phone calls or processing of stored messages, McDonough describes:

forwarding the voice message [at column 12, lines 36-41, as routing a phone call based on the message, where the message is forwarded in the embodiment processing a stored message].

12. Claim 9 is rejected using the same rationale as in the previous Office action that was mailed November 20, 2002 as paper 3, and is reproduced here:

Claim 9 is set forth including the limitations of claim 1. McDonough describes and make obvious those limitations as indicated there. Because McDonough's embodiments are directed equally to either processing of phone calls or processing of stored messages, McDonough describes:

the voice message is received over a telephone line [at column 2, line 19, as speech over the telephone].

13. Regarding claim 10, McDonough describes the claimed limitations as a whole recognizable to one versed in the art as the embodiment for processing untranscribed speech by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

voice representations and voice information from a person [at column 6, lines 23-29, as untranscribed speech data, where at column 2, lines 25-26, the user speaks naturally];

storing voice, corresponding to a word or phrase [at column 2, lines 1-17, as training words to the vocabulary, and at column 5, lines 47-48, as a vocabulary of words and phrases for speech events];

each voice representation is associated with a value [at column 6, lines 41-42, as parameter values for individual event distributions];

storing actions [at column 2, lines 14-17, as create a new node associating an action with a word]; receive voice information from a person over a communications line [at column 2, lines 18-19, as conversational speech over the telephone];

analyze the voice information from the person to determine if a stored voice representation occurs in the voice information [at column 12, lines 28-41, as sort speech data from phone calls or incoming voice messages for automatic detection of speech data of interest];

generate a final criteria measurement value associated with the voice information [at column 7, lines 28-44, as summing confidence scores over the speech data];

the final criteria measurement value based on the value associated with each determined stored voice representation occurring in the voice message [column 6 line 4-42, models are trained and parametric probabilistic models and parameter values are developed for stored representations. Column 6 line 1 the topic classifier uses model parameters determined in training. Therefore it is inherent that the confidence scores will be determined in part by this probabilistic parameters.];

perform actions if the voice information includes a stored voice representation [at column 12, lines 28-41, as respond to, route, or classify the phone call or incoming voice message using the sorting for detection of speech data of interest];

performing the stored action based on the final criteria measurement value [at column 12, lines 28-41, as sort, classify or route based on the topic, wherein at column 5, line 64-column 6, line 1 the topic choice is a confidence score that a topic is present].

14. Claim 13 is set forth including the limitations of claim 10 and with additional limitations similar to limitations set forth in claim 4. McDonough describes the limitations as indicated there.

15. Claim 14 is set forth including the limitations of claim 10 and with additional limitations similar to limitations set forth in claim 5. McDonough describes the limitations as indicated there.

16. Claim 15 is set forth including the limitations of claim 10. McDonough describes those limitations as indicated there. McDonough also describes additional limitations as follows:

receiving voice information during a call [at column 12, lines 37-38, as spoken message by a phone call from a caller];

compiling statistics on the call [at column 7, lines 46-47, as compute the scoring statistic given the data in the message].

17. Claim 16 is set forth including the limitations of claim 10 and with additional limitations already described there.

18. Regarding claim 17, McDonough describes the claimed limitations as a whole recognizable to one versed in the art as the embodiment for processing untranscribed speech by describing the content and functionality of the recited limitations recognizable as a whole to one versed in the art as the following terminology:

voice representations and voice messages [at column 6, lines 23-29, as untranscribed speech data];

storing voice, corresponding to a word or phrase [at column 2, lines 1-17, as training words to the vocabulary, and at column 5, lines 47-48, as a vocabulary of words and phrases for speech events];

storing actions [at column 2, lines 14-17, as create a new node associating an action with a word];

receive a voice message [at column 1, lines 53-54, as provide an input speech message];

analyze the voice message to determine if one or more stored voice representations occur in the message [at column 5, lines 43-50, as process a spoken message to produce a signal for the potential speech events in the spoken data];

generate a final criteria measurement value associated with the voice message [at column 7, lines 28-44, as summing confidence scores over the speech data];

the final criteria measurement value based on the value associated with each determined stored voice representation occurring in the voice message [column 6 line 4-42, models are trained and parametric probabilistic models and parameter values are developed for stored representations. Column 6 line 1 the topic classifier uses model parameters determined in training. Therefore it is inherent that the confidence scores will be determined in part by this probabilistic parameters.];

each voice representation is associated with a final criteria measurement value [at column 7, lines 28-44, as putative words and phrases with confidence scores are summed over the speech data];

perform one (or more) action(s) if the stored voice representations are found in the voice message [at column 2, lines 1-8, as route the message according to the action associated with the ' word];

performing the (stored) action based on the final criteria measurement value [at column 12, lines 28-41, as sort, classify or route based on the topic, wherein at column 5, line 64-column 6, line 1 the topic choice is a confidence score that a topic is present];

a storage device for storing the parameters associated with the claimed functionality [at column 12, line 2, as the internal structure of the event detector, for the example at column 2, lines 1-9, the word nodes and action nodes];

a processor for accomplishing the claimed functionality [at column 5, lines 45-46, as a speech event frequency detector].

19. Claim 22 is set forth including the limitations of claim 17 and with additional limitations similar to limitations set forth in claim 9. McDonough describes the limitations as indicated there.

20. Claims 23, 28, and 29 are set forth with limitations similar to claims 10, 15, and 9. McDonough describes the limitations as indicated there. McDonough also describes additional limitations as follows:

a storage device for storing the parameters associated with the claimed functionality [at column 12, line 2, as the internal structure of the event detector, for the example at column 2, lines 1-9, the word nodes and action nodes];

a processor for accomplishing the claimed functionality [at column 5, lines 45-46, as a speech event frequency detector].

21. Claim 47 is set forth with limitations similar to limitations set forth in claim 1. McDonough describes the limitations as indicated there. McDonough also describes additional limitations as follows:

means for storing the parameters associated with the claimed functionality [see Fig. 1, items 20, 22, and their descriptions especially at column 12, line 2, of the internal structure of the event detector, for the example at column 2, lines 1-9, the word nodes and action nodes];

means for receiving and analyzing a voice message and accomplishing the claimed functionality [see Fig. 1, items 10, 12, 16, 18, and their descriptions, especially

at column 5, lines 45-46, of a speech event frequency detector, topic classifier and classifier output].

Claim 48 is set forth with limitations similar to limitations set forth in claim 23.

McDonough describes the limitations as indicated there, where the storage device and the processor are the means for storing, means for receiving, and means for analyzing.

Claim Rejections - 35 USC § 103

22. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

McDonough and Furui

23. Claims 2, 11, 18, 24, 30, 32, 35-37, 39-41, 43-44, 46, and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough et al. [US Patent 5,625,748] in view of Sadaoki Furui, "Digital Speech Processing, Synthesis, and Recognition," Marcel Dekker, Inc., New York, 1989, pp. 225-289, both already of record.

24. Claim 2 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 2 is set forth including the limitations of claim 1. McDonough describes those limitations as indicated there. McDonough [at column 7, lines 26-48] also describes phonetic wordspotting for the preferred embodiments.

Furui describes:

a voice message [at page 226, lines 19-22, as speech waveforms];
each stored voice representation is a phoneme representation of a word or
phrase [at page 244, lines 1-4, as reference templates use phonemes concatenates to
represent words].

Although, McDonough describes phonetic wordspotting, McDonou~4h does not
explicitly describe phoneme models.

To the extent that McDonough's stored voice representations of words are not
necessarily phoneme representations, it would have been obvious to one of ordinary
skill in the art of speech recognition at the time of invention to include Furui's phoneme
based lexicon for wordspotting as McDonough's trained vocabulary, because
McDonough points out phonetic wordspotting as preferred.

25. Claim 11 is rejected using the same rationale as in the previous Office action
(mailed November 20, 2002 as paper 3), and reproduced here:

Claim 11 is set forth including the limitations of claim 10 and with additional
limitations similar to limitations set forth in claim 2. McDonough and Furui describe and
make obvious the limitations as indicated there.

26. Claim 18 is rejected using the same rationale as in the previous Office action
(mailed November 20, 2002 as paper 3), and reproduced here:

Claim 18 is set forth including the limitations of claim 17 and with additional limitations similar to limitations set forth in claim 2. McDonough and Furui describe and make obvious the limitations as indicated there.

27. Claim 24 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 24 is set forth including the limitations of claim 23 and with additional limitations similar to limitations set forth in claim 2. McDonough and Furui describe and make obvious the limitations as indicated there

28. Regarding claim 30, McDonough describes the claimed limitations as a whole recognizable to one versed in the art as the embodiment for processing untranscribed speech comprising:

storing actions [at column 2, lines 14-17, as create a new node associating an action with a word];

receive a voice message [at column 1, lines 53-54, as provide an input speech message];

speech [at column 6, lines 23-29, as untranscribed speech data];

predetermined patterns of speech [at column 7, lines 27-37, as HMMs from training and modeling];

analyze the voice message to determine if it exhibits a predetermined pattern of speech [at column 5, lines 43-50, as process a spoken message to produce a signal for the potential speech events in the spoken data];

perform actions if the predetermined pattern is found in the voice message [at column 2, lines 1-8, as route the message according to the action associated with the word].

Although, McDonough [at column 7, lines 27-44] describes spotting the words and phrases of the speech data using phonetically trained HMMs for the preferred embodiments, McDonough describes using HMMs for this method as known techniques. Consequently, McDonough does not describe details of the techniques. In particular, McDonough does not explicitly describe HMMs representing either a tone of speech or a frequency of speech.

Furui [at page 255, lines 29-38 & page 258, lines 16-18] describes widely investigated word modeling by phonetic HMMs and that feature vectors are applied in HMMs. Furui describes:

the predetermined pattern representing a tone of speech in the voice message [at page 8, lines 1-15 and Fig. 8.15, as a lattice taking account of allophones, coarticulation, stress, and syllables];

the predetermined pattern representing a frequency (or other) of the speech in the voice message [at page 278, lines 3-9, as Markov models for recognition of input speech converted into spectral feature vectors by DFT].

In view of the teachings of Furui about the essential nature of voice containing frequency and tone, McDonough's stored voice representations must represent the frequency and tone of voice; however, to the extent that McDonough's stored voice representations of phonemes, words, and phrases may not innately represent frequency (or tone), it would have been obvious to one of ordinary skill in the art of speech recognition at the time of invention that Furui's DFT produces frequency spectral parameters to represent the HMMs suitable for implementing McDonough's HMMs for word and phrase spotting, because McDonough points out HMMs as preferred.

Although McDonough prefers HMM representations for the voice, McDonough's omission of particular details regarding HMMs is due to, and is evidence of, the lack of any need for one of ordinary skill in the art of pattern matching to be reminded of such details.

29. Claim 32 is set forth including the limitations of claim 30 and with additional limitations similar to limitations set forth in claim 5. McDonough and Furui describe and make obvious the limitations as indicated there.

30. Claim 35 is set forth including the limitations of claim 30 and with additional limitations similar to limitations set forth in claim 8. McDonough and Furui describe and make obvious the limitations as indicated there.

31. Claim 36 is set forth including the limitations of claim 30 and with additional limitations similar to limitations set forth in claim 9. McDonough and Furui describe and make obvious the limitations as indicated there.

32. Claim 37 and claims 39 and 40 are set forth with limitations similar to claim 30 and with limitations similar to limitations set forth in claims 14 and 16. McDonough and Furui describe and make obvious the limitations as indicated there, where a stored voice representation is a predetermined pattern of speech.

33. Claim 41 and claim 43 are set forth with limitations similar to limitations set forth in claim 30 and claim 22. McDonough and Furui describe and make obvious the limitations as indicated there. McDonough also describes additional limitations as follows:

a storage device for storing the information associated with the claimed functionality [at column 12, line 2, as the internal structure of the event detector, for the example at column 2, lines 1-9, the word nodes and action nodes];

a processor for accomplishing the claimed functionality [at column 5, lines 45-46, as a speech event frequency detector].

34. Claim 44 and claim 46 are set forth with limitations similar to limitations set forth in claim 37 and claim 22. McDonough and Furui describe and make obvious the

limitations as indicated there. McDonough also describes additional limitations as follows:

a storage device for storing the information associated with the claimed functionality [at column 12, line 2, as the internal structure of the event detector, for the example at column 2, lines 1-9, the word nodes and action nodes];

a processor for accomplishing the claimed functionality [at column 5, lines 45-46, as a speech event frequency detector].

35. Claim 49 is set forth with limitations similar to limitations set forth in claims 30 and 47. McDonough and Furui describe and make obvious the limitations as indicated there.

36. Claim 50 is set forth with limitations similar to limitations set forth in claims 37 and 48. McDonough and Furui describe and make obvious the limitations as indicated there.

McDonough and Epstein

37. Claims 6-7, 20-21, 26-27, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough et al. [US Patent 5,625,748] in view of Epstein et al. [US Patent 6,327,343], both already of record.

38. Claim 6 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 6 is set forth including the limitations of claim 1. McDonough describes and make obvious those limitations as indicated there. McDonough [at column 12, lines 40-41] also describes classifying stored voice messages.

McDonough, however, does not explicitly describe classifying the message as urgent.

Epstein [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein describes:

marking the message as urgent [at column 17, line 40, as adding an urgency stamp].

Although McDonough describes classifying message, McDonough's does not enumerate any particular classifications. In view of Epstein's labeling a message as urgent, it would have been obvious to one of ordinary skill in the art of message handling at the time of invention to include Epstein's concept of marking as urgent as a classification for McDonough's messages because that would have enabled signaling the addressee that an urgent message is available.

39. Claim 7 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 7 is set forth including the limitations of claim 1. McDonough describes and make obvious those limitations as indicated there. McDonough [at column 12, lines 36-41] also describes routing a phone call based on the message.

McDonough, however, does not explicitly describe calling a pager. [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein describes:

calling a pager [at column 4, lines 1-3, as transmit a message to the user's pager].

Although McDonough describes routing calls and messages, McDonough does not enumerate any particular terminal type for receiving the message. In view of Epstein's transmission to a pager, it would have been obvious to one of ordinary skill in the art of message handling at the time of invention to include Epstein's ability to call a pager for McDonough's messages because that would have enabled signaling the addressee when the user is not at home or is out of the office, as Epstein describes [at column 14, lines 47-48].

40. Claim 20 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 20 is set forth including the limitations of claim 17 and with additional limitations similar to limitations set forth in claim 4.

McDonough describes the limitations as indicated there. McDonough [at column 2, lines 17-28] receives input from the user for establishing user selection of words and actions.

McDonough, however, does not explicitly describe an interface between the user and the speech event frequency detector.

Epstein [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein also describes:

a user interface [at column 6, lines 7-13, as a programming interface].

Although McDonough describes receiving input from the user, McDonough does not explicitly describe any means to accept this input. Because McDonough describes user input, it would have been obvious to one of ordinary skill in the art of processing devices at the time of invention to include Epstein's concept of a programming interface with McDonough because that would provide the means for the user to provide the input to train McDonough's neural network to the words and actions.

41. Claim 21 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 21 is set forth including the limitations of claim 17 and with additional limitations similar to limitations set forth in claim 5. McDonough describes the limitations as indicated there. McDonough [at column 2, lines 17-28] receives input from the user for establishing user selection of words and actions.

McDonough, however, does not explicitly describe an interface between the user and the speech event frequency detector.

Epstein [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein also describes:

a user interface [at column 6, lines 7-13, as a programming interface].

Although McDonough describes receiving input from the user, McDonough does not explicitly describe any means to accept this input. Because McDonough describes user input, it would have been obvious to one of ordinary skill in the art of processing devices at the time of invention to include Epstein's concept of a programming interface with McDonough because that would provide the means for the user to provide the input to train McDonough's neural network to the words and actions.

42. Claim 26 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 26 is set forth including the limitations of claim 23 and with additional limitations similar to limitations set forth in claims 13 and 20. McDonough and Epstein describe and make obvious the limitations as indicated there.

43. Claim 27 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 27 is set forth including the limitations of claim 23 and with additional limitations similar to limitations set forth in claims 14 and 21. McDonough and Epstein describe and make obvious the limitations as indicated there.

44. Claim 51 is set forth with limitations similar to limitations that are also set forth in claim 1. McDonough describes the limitations as indicated there.

McDonough [at column 5, lines 45-46] also describes a processor for accomplishing the claimed functionality.

McDonough, however, does not explicitly describe that the speech event frequency detector is computer-implemented and with computer-readable contents.

Epstein [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein describes:

a computer readable medium whose contents cause the computer to perform the procedure [at column 4, lines 4-30, as associated memory for software implemented on a computer to accomplish the functionality].

To the extent that McDonough's system does not necessarily contain typical computer hardware and software, it would have been obvious to one of ordinary skill in the art of implementing functional descriptions of operations at the time of invention to include Epstein's concept of computer implementations by software loaded in computer readable memory to achieve McDonough's speech processing functionality because that would have provided the best implementation under particular circumstances identified and evaluated by a skilled artisan. For example, it is within the ordinary skill of

an artisan to determine that software elements, such as Epstein's concept, benefits changing processing functions or adding other processing functions because software elements are more easily modified than hardware elements.

45. Claim 52 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

46. Claim 52 is set forth with limitations similar to limitations set forth in claim 23 and with additional limitations similar to limitations set forth in claim 51. McDonough and Epstein describe and make obvious the limitations as indicated there.

McDonough and Furui and Epstein

47. Claims 3, 12, 19, 25, 31, 33-34, 38, 42, 45, and 53-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDonough et al. [US Patent 5,625,748] in view of Sadaoki Furui, "Digital Speech Processing, Synthesis, and Recognition," Marcel Dekker, Inc., New York, 1989, pp. 225-289 and further in view of Epstein et al. [US Patent 6,327,343], all already of record.

48. Claim 3 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 3 is set forth including the limitations of claims 1-2. McDonough and Furui describe and make obvious those limitations as indicated there. McDonough [at column

11, lines 9-11] also describes implementing algorithms in the C programming language for computing.

McDonough and Furui, however, do not explicitly describe digital conversion of analog signals. [at column 8, lines 23-34] also describes processing a voice message as the embodiment for stored audio data. Epstein describes:

a voice message [at column 8, lines 33-35, as stored audio data];
converting the analog voice message from analog to digital [at column 7, lines 1-5, as convert the analog data, such as an analog recorder, into digital data]; and
processing the digitized voice message [at column 9, lines 40-67, as convert voice data].

To the extent that McDonough's data is not innately digitized for the suggested computer algorithms, it would have been obvious to one of ordinary skill in the art of speech processing at the time of invention to include Epstein's analog to digital conversion for McDonough's data or Furui's data because the digital data could be processed on general purpose digital computers or programmable digital signal processors.

For the digital data then, Furui describes:
processing the voice message into phonemes [at page 244, lines 8-28, as short periods of input speech with phoneme-template structure are compared to phoneme reference templates to represent each word by concatenation of phonemes]; and

comparing the phonemes from the voice message with stored voice representations [at page 244, lines 42-44, as match the same phoneme positions between the input speech and reference templates].

49. Claim 12 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 12 is set forth including the limitations of claims 10-11 and with additional limitations similar to limitations set forth in claim 3. McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

50. Claim 19 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 19 is set forth including the limitations of claims 17-18 and with additional limitations similar to limitations set forth in claim 3. McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there. Epstein also describes further limitations as follows: an analog to digital converter [at column 7, lines 1-5, as an analog-to-digital converter].

51. Claim 25 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 25 is set forth including the limitations of claims 23-24 and with additional limitations similar to limitations set forth in claim 12. McDonough, Furui, and Epstein

describe and make obvious the limitations as indicated there. Epstein also describes further limitations as follows:

an analog to digital converter [at column 7, lines 1-5, as an analog-to-digital converter].

52. Claim 31 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 31 is set forth including the limitations of claim 30 and with additional limitations similar to limitations set forth in claim 3. McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

53. Claims 33 and 34 are set forth including the limitations of claim 30 and with additional limitations similar to limitations set forth in claims 6 and 7. Neither McDonough nor Furui explicitly describes the additional limitations of claims 6 and 7; however, McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

54. Claim 38 is rejected using the same rationale as in the previous Office action (mailed November 20, 2002 as paper 3), and reproduced here:

Claim 38 is set forth including the limitations of claim 37 and with additional limitations similar to limitations set forth in claim 12. McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

55. Claim 42 is set forth including the limitations of claim 41 and with additional limitations similar to limitations set forth in claim 21. Neither McDonough nor Furui explicitly describes the additional limitations of claim 21; however, McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

56. Claim 45 is set forth including the limitations of claim 44 and with additional limitations similar to limitations set forth in claim 27. Neither McDonough nor Furui explicitly describes the additional limitations of claim 27; however, McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

57. Claim 53 is set forth with limitations similar to limitations set forth in claim 30 and with additional limitations similar to limitations set forth in claim 51. Neither McDonough nor Furui explicitly describes the additional limitations of claim 51; however, McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

58. Claim 54 is set forth with limitations similar to limitations set forth in claim 37 and with additional limitations similar to limitations set forth in claim 51. Neither McDonough nor Furui explicitly describes the additional limitations of claim 51; however, McDonough, Furui, and Epstein describe and make obvious the limitations as indicated there.

Conclusion

59. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS C. GODBOLD whose telephone number is (571)270-1451. The examiner can normally be reached on Monday-Thursday 7:00am-4:30pm Friday 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DCG

/Patrick N. Edouard/
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